INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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25. Okt. 2004

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Rule 71.1)

**IMPORTANT NOTIFICATION** 

TBK-PATENT

Date of mailing (day/month/year)

19-10-2004

Applicant's or agent's file reference

International application No.

International filing date (day/month/year)

19-07-2002

Priority date (day/month/year)

PCT/IB2002/002842

Nokia Corporation

et al

Applicant

- The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
- A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
- Where required by any of the elected Offices, the International Bureau will prepare an English translation of the 3. report (but not of any annexes) and will transmit such translation to those Offices.

## 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in som Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, intentive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see Also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the IPEA/

Patent- och registreringsverket

Box 5055

S-102 42 STOCKHOLM

Facsimile No. 08-667 72 88

Telex 17978 PATOREG-S Authorized officer

Telephone No.

Marita Oun 08-782 25 00



## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WO33664	FOR FURTHER ACTION See Form PCT/IPEA/416							
International application No.	International filing date (day	/month/year) Priority date (day/month/year)						
PCT/IB 2002/002842	19.07.2002							
International Patent Classification (IPC) or national classification and IPC								
H04L 29/06, H04L 12/56								
Applicant								
Nokia Corporation et al								
This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.								
2. This REPORT consists of a total of	of 5 sheets, inc	cluding this cove	r sheet.					
3. This report is also accompanied by	y ANNEXES, comprising:							
0	and do the framework of D	- \ - 4-4-1 - C	Acres of China					
a (sent to the applicant and to the International Bureau) a total of sheets, as follows:  sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).  sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.								
b. [] (sent to the Internatio			number of electronic carrier(s))					
, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).								
4. This report contains indications re	lating to the following items:							
Box No. I Basis of	the report							
Box No. II Priority								
Box No. III Non-est	Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability							
Box No. IV Lack of	Box No. IV Lack of unity of invention							
applicat	applicability; citations and explanations supporting such statement							
Box No. VI Certain documents cited								
Box No. VII Certain defects in the international application								
Box No. VIII Certain observations on the international application								
Date of submission of the demand	Day	te of completion	o C this ground					
and of businession of the domina	Da	ie of completion	of this report					
18.02.2004		18.10.2004						
Name and mailing address of the IPEA/SE		thorized officer						
Patent- och registreringsverket Box 5055								
S-102 42 STOCKHOLM Kristoffer Ogebjer/EK								
Facsimile No. +46 8 667 72 88	Tel		5 8 782 25 00					
Form PCT/IPEA/409 (cover sheet) (Januar		ADIE	OFY					
BEST AVAILABLE COPY								

Bo	x No. I	Basis of the report							
1.		regard to the language, this report is based on the international application in the language in which it was filed, unless wise indicated under this item.							
į		This report is based on a translation from the original language into the following language, which is the language of a translation furnished for the purposes of:							
		international search (under Rules 12.3 and 23.1(b))							
		publication of the international application (under Rule 12.4)							
		international preliminary examination (under Rules 55.2 and/or 55.3)							
2.	furnisi	With regard to the elements of the international application, this report is based on (replacement sheets which have been turnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):							
	$\boxtimes$	the international application as originally filed/furnished							
		the description:							
		pages as originally filed/furnished							
		pages* received by this Authority on							
		pages* received by this Authority on							
	Ш	the claims:							
		pages as originally filed/furnished							
		pages* as amended (together with any statement) under Article 19							
		pages* received by this Authority on pages*							
		the drawings:							
		pages as originally filed/furnished pages* received by this Authority on							
3.		a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.  The amendments have resulted in the cancellation of:							
<i>J</i> .	لــا	The amendments have resulted in the cancenation of:							
		the description, pages							
		the claims, Nos.							
		the drawings, sheets/figs							
		the sequence listing (specify):							
		any table(s) related to the sequence listing (specify):							
4.		This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).							
		the description, pages							
		the claims, Nos.							
		the drawings, sheets/figs							
		the sequence listing (specify):							
		any table(s) related to the sequence listing (specify):							
*	If item	4 applies, some or all of those sheets may be marked "superseded."							

Form PCT/IPEA/409 (Box No. I) (January 2004)

Box No. V	Reasoned statement u		35(2) with regard to novelty, inventive s ng such statement	tep or industrial applicability;
1. Statemen	t			
Nove	elty (N)	Claims Claims	1-20	YES NO
Inver	ntive step (IS)	Claims Claims	1-20	YES NO
Indus	strial applicability (IA)	Claims Claims	1-20	YES NO

2. Citations and explanations (Rule 70.7)

Cited documents in the International search report:

D1: VADALI R ET AL: "Agent-based route optimization for mobile IP VTC FALL 2001. IEEE 54TH. VEHICULAR TECHNOLOGY CONFERENCE. PROCEEDINGS. ATLANTIC CITY, NJ, OCT. 7 - 11,2001, IEEE VEHICULAR TECHNOLGY CONFERENCE, NEW YORK, NY: IEEE, US, vol. 1 OF 4. CONF. 54, 7 October 2001 (2001-10-07), pages 2731-2735, XP010562472 ISBN: 0-7803-7005-8;

D2: PERKINS, JOHNSON: "Route Optimization in Mobile IP: draft-ietf-mobileip-optim-11.txt" INTERNET DRAFTS, 6 September 2001 (2001-09-06), pages 1-25, XP002234531;

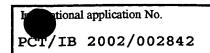
D3: MALKI, SOLIMAN: "Hierarchical Mobile IPv4/v6 and Fast Handoffs: draft-elmalki-soliman-hmipv4v6-00.txt" INTERNET DRAFTS, 10 March 2000 (2000-03-10), page 1-24 XP002234532;

D4: JOO, EDWARDS: "A Fast Reacting Mechanism for Terminal Mobility: draft-ehjoo-fr-rsvp-00.txt" INTERNET DRAFTS, 2 November 2001 (2001-11-02), pages 1-18, XP002234533

The object of the invention is to solve the triangle routing problem while maintaining optimised mobility and location privacy at the same time.

D1, which is considered to be the closest state of the art, relates to a method solving the triangle routing problem. The tasks of maintaining and updating binding caches and encapsulating messages are moved away from individual correspondent nodes to the correspondent agents. D1 introduces a correspondent agent, which makes it possible to tunnel the

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## Supplemental Box

In case the space in any of the preceding boxes is not sufficient. Continuation of: Box V

data to the mobile node and D1 explicit states the feature of bypassing the mobile node's home agent and establishes a tunnel to the node.

The invention differs from what D1 discloses in the matter of naming the different parts. These parts are performing operations in accordance to the parts of D1. By referring the details of D1 to the wording of claim 1 this will be more apparent:

According to the method of D1 a route is established from the source (CN) via on first agent (CA) associated to the source, at least two agents (FA and HA) associated to the destination to the destination. The route is to be optimised and when rerouted the HA is bypassed. From what the invention states according to claims 1 and 11 the invention is considered to be an obvious method/system for a person skilled in the art that requires no extra inventive activity by the skilled person from what D1 discloses. Hence, the invention according to claims 1 and 11 lacks an inventive step.

The binding update in D1 may be initiated by the foreign agent in the system or the mobile node. Therefore, the invention according to claims 2,3,12 and 13 is considered to be an obvious feature to a person skilled in the art and lacks an inventive step.

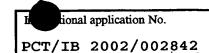
To send the route optimisation in the resource reservation signalling does not require extra inventive activity by the skilled person and thereby lacks the invention according to claims 10 and 20 an inventive step.

To base the decision on the service or the quality of service required does not require extra inventive activity by the person skilled in the art to implement in the system of D1. Therefore, the invention according to claims 4-6 and 14-16 lacks an inventive step.

D1 discloses the feature of informing the first agent of the care\_of\_address of the destination and hence, the invention according to claims 8,9 and 18,19 lacks an inventive step.

.../...

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



Supplemental Box

In case the space in any of the preceding boxes is not sufficient. Continuation of: BOX V

Neither is the ability to base the routing on the estimated benefit in form of a threshold value considered to involve an inventive step. Hence, the invention according to claims 7 and 17 lacks an inventive step. Bypassing the mobile's home agent is also known from D2 (chapter 1 and 3) and D3 (chapter 7,8). D2 also discloses the route optimization that provides means for any node to maintain a binding cache containing the care-of address of one or more mobile nodes. When sending an IP datagram to a mobile node, if the sender has a binding cache entry for the destination mobile node, it MAY tunnel the datagram directly to the care-of address indicated in the cached mobility binding.

Accordingly, the invention defined in claims 1-20 is novel but is considered to lack an inventive step. The invention is industrially applicable.

Form PCT/IPEA/409 (Supplemental Box) (January 2004)